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1. The mycelium, pycnidia, etc., are preserved in their natural form and position on the surface of the host, and not all broken and disarranged as is the case when they are scraped from the surface.

2. In many cases of the forms the mycelium is so scanty that in an ordinary mount or section too little is present to show its nature, while by this method a large area is presented so that all the mycelium is sure to be present.

3. Pycnidia in all stages of development may be easily obtained and studied in their normal position and relation to the mycelium on which they are borne.

4. In order that the spores may be shown, a pycnidium at the side of the mount may be crushed with a dry scalpel while the material is still in the clearer.

5. By removing the color of the host cells there is nothing to interfere with the examination of the mycelium by transmitted light.

This method will be found most valuable in the case of those fungi having dark colored mycelium. Hyaline mycelium would be scarcely more evident than the colorless host cells. The whole secret of the process lies in the fact that the pigment in most of the higher plants (the hosts) is bleached by Potassium hydrate, while that of the parasite is not affected.

Very excellent results have been obtained in the case of the following fungi: *Cladosporium carpophilum* on the bark of peach twigs, *Leptothyrium pomi* on the fruit of cultivated apples, *Vermicularia circinans* on the outer leaves of onion bulbs, *Sphaeropsis malorum* on leaves of cultivated apples, *Macrosporium cucumerinum* on leaves of *Cucumis melo*.

Botanical Department, Cornell University.

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## THE FINDING OF PUCCINIA PHRAGMITIS (SCHUM.) KORN. IN NEBRASKA.

BY JOHN M. BATES.

On June 14th, 1901, while collecting asparagus rust in a garden in Kearney, Nebr., I found six or seven spots of pure white æcidia on *Rheum raphonticum* on the under side of the leaves. It was at once pronounced to be *Puccinia phragmitis*, and appeared to be on a new host for this country. This suggested further study of the species. This garden is three miles from the Platte River, and probably there is no patch of *Phragmites phragmites* nearer than this. About a mile west of Callaway, Custer County, there are several patches of this grass, and on this I found rust on the 28th of August of last year. The *Uredo* stage was just passing away at that date. This brought

up the question of where the æcidial stage might be found. Learning that Dr. Arthur had made cultures of æcidia on a *Rumex* from the teleutospores of *Phragmites* rust, it occurred to me that *Rumex britannica* which grows abundantly in these marshes must be the host plant. On April 9th I visited one of the patches of *Phragmites* and collected leaves for a culture. In my back yard is a large crown of *Rumex altissimus*, and over this I laid several rusted leaves of the *Phragmites*, putting a stone on one end and allowing the other to flop in the wind. On May 28th I found the Dock leaves heavily infected, some of the lower leaves having white æcidia ready for collection. This suggested a visit to the marsh containing *Rumex britannica*. Here I waded into the marsh and was rewarded by finding æcidia in abundance, but still a little immature. Specimens were collected for distribution.

I next began inspecting my neighbors' gardens and found good æcidia on *Rheum rhaponticum* in four gardens, two near my home, one three-quarters of a mile east, and the other four miles distant westward. I concluded from this that the spores had not come from my experiment, but were generally distributed by the wind.

A week later I collected another set of æcidia from *Rumex britannica* in the marsh, finding the spots lessening in number as the distance from the grass increased, and none at all a few hundred feet away.

On June 9th I found an æcidium in small quantity on *Rumex altissimus* by the creek bank, three blocks south of my home, and one good spot of it on *Rumex crispus*.

We have therefore, in twelve months, found the æcidia on four hosts in the Dock Family, namely; *Rheum rhaponticum*, *Rumex altissimus*, *Rumex britannica*, and *Rumex crispus*. The uredo and teleutospore stages are common on the Reed Grass—*Phragmites phragmites*. As this grass as well as *Rumex britannica* are common through the northern states it is probable that the rust may be found here and there if carefully searched for.

Red Cloud, Nebraska.

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## POISONING BY *LEPIOTA MORGANI* PK.

F. L. STEVENS.

The genus *Lepiota* according to Engler and Prantl, following Saccardo, contains some 270 species, about thirty of which are native to America, 18 being found in New York alone. It belongs to the white spored series of the *Agaricaceae* and is distinguished from the other members of this series by the absence of a volva, presence of an annulus, which is often moveable, and